

# Summary of **Green Paper on Energy Policy in Ireland**

May 2014



Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádurtha  
Department of Communications, Energy and Natural Resources



# Contents

**Introduction**

**Why is energy policy needed?**

**Developments in society and energy patterns since 2007**

**Developments in energy policy**

**Six themes to assist in framing the discussion**

**List of questions**

**Consultation Process**



# Introduction

Energy systems are integral to all parts of modern life, as they help us live our lives and drive our economy forward. Energy is essential to our well-being, our comfort and our economy. But where we get our energy from and how we use it raises many issues and important societal questions. Ireland is dependent on imported fossil fuels, with limited influence on the price of these fuels, and with the environmental implications of their use. Policy must find ways to reduce these risks while ensuring plentiful and affordable energy supply, and must strike balances between the pros and cons of different energy sources.

In this context, the upcoming White Paper on Energy Policy in Ireland is all about providing a vision for sustainable energy in Ireland into the future, and a pathway to get there. This Green Paper on Energy Policy in Ireland aims to stimulate a discussion between citizens, policymakers, businesses and stakeholders on such a vision for Irish energy policy.

## Why is energy policy needed?

The aim of energy policy is to provide the regulatory and financial framework to deliver a national energy system that enables a sustainable quality of life. Energy policy must serve societal needs by steering and driving the actions that will lead to long-term transformation, to the benefit of everyone.

Irish energy policy is shaped by three key pillars and an additional fourth focus set out below:

- Security of energy supply – self-sufficiency, reliability
- Competitiveness – price, efficiency, choice and affordability
- Environmental responsibility – reduction of harmful emissions, minimising the negative effects of energy sourcing and use
- Creation of jobs and enterprise development – new business models, new products and services, new skills

Energy policy is a servant to wider social and economic policy, and has become ever more deeply embedded in those policies. Its role is not only to ensure the delivery of safe, secure, efficient and economical energy services to all citizens and businesses. It can also promote innovation and entrepreneurialism, bringing about new opportunities for Ireland to improve its economic competitiveness and its quality of life.

This paper discusses what needs to be addressed in the forthcoming White Paper on Energy Policy in Ireland. This means considering what we will need as a society in the future and what a sustainable energy system might look like. International commitments, especially but not only in the EU, around climate change, renewable energy targets and energy markets, to name a few, will naturally be important in shaping this vision.

A starting-point is to reflect on energy policy since the last energy White Paper in 2007 and on what has or has not been achieved. However, since then much has changed both in Ireland and in the world.

## Developments in society and energy patterns since 2007

The huge economic changes since 2007 set the context for everything. The economic situation has influenced the way we use energy and the amount that is used. Between 2007 and 2012 Ireland's economy contracted by 7.3%. Energy patterns have also changed: energy demand has fallen by 19%. As a result, associated CO<sub>2</sub> emissions fell by 21%, bringing us back to 1998 levels. This is partly because of reduced economic activity, but energy policy also played a role, as the key indicators for transport, industry and the residential sector show:

- Transport energy demand in 2012 was 27% less than in 2007 levels, including a 43% reduction in energy use for freight transport. Average CO<sub>2</sub> emissions for new cars fell by 24%
- Industrial energy demand in 2012 was 13% lower than in 2007, whereas industrial economic activity was only 4.7% lower. Energy demand in industry in 2012 fell to 1999 levels
- Energy use in buildings has fallen by 10% since 2007
- Energy use per household fell by 21% since 2007, when corrected for weather

We still get our energy mainly from fossil-fuel imports – at a cost of €6.5 billion in 2012. However, the share of domestically produced renewable energy is increasing. This reduces our imports and the carbon dioxide emissions produced from electricity.

Our energy mix has changed since 2007. More than 19% of electricity in 2012 was produced from renewable energy and was therefore carbon-neutral. We use more gas, less coal, less oil and less peat in electricity, although we remain largely dependent on oil, in transport in particular.

These positive trends are set to continue but there is little space for complacency. As the economy starts to recover, we need to ensure that our demand for energy, and our reliance on fossil fuels, do not rise accordingly. We need to continue to decarbonise and to develop and exploit all of our own resources.

Not least, there is the question of prices. Since 2007, energy prices in Ireland have risen 29% in real terms, compared with an average rise of 20% in OECD Europe. This price trend reflects Ireland's continued heavy dependence on imported oil and gas. Continued efforts to reduce this dependence should benefit consumers with lower prices.

## Developments in energy policy

There have been some structural changes to energy markets in Ireland since 2007. This included the advent of the all-island Single Electricity Market in 2007. This established a single wholesale electricity market between Ireland and Northern Ireland. This is considered to have been successful in driving down electricity prices and has provided competition, in conjunction with the opening of retail energy market competition. The interconnector linking Ireland with the UK and European energy markets has also increased competition.

Two overarching policy frameworks have been published: the National Energy Efficiency Action Plan (NEEAP), the National Renewable Energy Action Plan (NREAP). These provide comprehensive plans on how we can reach the EU renewable energy and energy efficiency targets.

Key support schemes such as the Renewable Energy Feed-In Tariff (REFIT) and the biofuels obligation schemes have meant that Ireland is now on a path towards meeting our legally binding 2020 EU renewables targets. Similarly, the Better Energy Programmes and in industry the Large Industry Energy Network (LIEN) have been instrumental in reducing Ireland's energy intensity to one of the lowest in the developed world (energy intensity is a measure of the energy efficiency of a country's economy, calculated as units of energy per unit of GDP).

EU energy policy is now looking to post-2020 and on to 2030. Targets for energy efficiency, greenhouse-gas emissions and renewable energy in 2030 are being set. Energy markets are continuing to unbundle, with further integration of electricity and gas energy systems.

These policies are supported by initiatives relating to the wider economy such as the Action Plan for Jobs and the National Research Prioritisation exercise. Reinforcement of energy and smart economy policies are intended to deliver a sustainable energy system for Ireland over the coming decades.

## Six themes to assist in framing the discussion

The discussion in the Green Paper about Ireland's future energy path is structured into the six policy priority areas listed below, as informed by the three energy policy pillars, job creation and economic growth. Two of the priority areas concern sustainability and economic opportunity (priorities 5 and 6); these are cross-cutting themes that are integral to all energy policy priority areas, but, given their importance, they are looked at in their own right. At the end of each policy priority section, there is a series of open-ended questions on key issues relating to the priority.

All those willing to give feedback to the Department on this Green Paper are invited to suggest answers to these questions, and/or to suggest additional issues that they think relevant.

The six policy priority areas to assist in framing the discussion are:

**Priority 1: Empowering Energy Citizens**

**Priority 2: Markets and Regulation**

**Priority 3: Planning and Implementing Essential Energy Infrastructure**

**Priority 4: Ensuring a Balanced and Secure Energy Mix**

**Priority 5: Putting the Energy System on a Sustainable Pathway**

**Priority 6: Driving Economic Opportunity**

A full list the questions on all of the above 6 priorities on appear page 10 onwards.

## Priority 1: Empowering Energy Citizens

Energy is central to the functioning of our society, the economy, and our health and wellbeing. The aim of energy policy is to serve society by improving the way energy is delivered, supplied and used. We all have a stake in this and therefore are all energy citizens – first, as part of the democratic decision-making process, and, secondly, as users of energy. Empowerment involves the provision of information, engagement, and participation in the sometimes difficult decisions that are needed at all levels of energy policy. The scale of the transformation in the Irish energy system that will happen in the next decades will be like nothing we have witnessed before. The participation of Irish citizens is needed to shape that future.

Some of the areas in this theme where input is particularly sought are:

- How best to inform and raise the awareness of citizens
- Reducing energy costs and carbon emissions from homes
- Adapting to the changing relationships between energy suppliers and citizens

Energy users should be informed and proactive participants in the evolution of the energy market. Providing information such as Building Energy Rating (BER) certificates on the energy performance of buildings and knowledge on different energy technology and financing options – e.g. on the Sustainable Energy Authority of Ireland (SEAI) website – gives citizens the tools to make choices that benefit them and help to ensure a sustainable energy future.

The relationship between energy suppliers and their customers will change to one of energy providers covering services such as home retrofits, advisors on energy efficiency and renewable energy options. Smart meters will give unprecedented access to data on how we use energy and how much of it we use.

How successfully citizens are empowered to engage in energy questions will to a large part determine the sustainability of our energy system on many levels. This Priority starts a discussion on the role that Irish citizens can play in this, as we collectively transform the Irish energy system, and also focuses on what is needed from Government to enable and encourage people to join in this process.



## Priority 2: Markets & Regulation

Energy markets and regulations set the context for energy policy, and set the principles, incentives and rules to deliver the best energy system most efficiently. Energy policy has evolved over the past two decades, moving from central planning to appropriately regulated markets. Ireland's regulatory framework for energy contributes in two main ways to energy policy: regulation facilitates the achievement of national energy policy goals, and it provides stable, transparent, evidence-based regulation, thereby increasing choice, enhancing quality, ensuring continued investment and ensuring network costs that are as low as possible commensurate with Ireland's energy circumstances and investment needs.

Energy has an EU and global context, and never more so than now with the advent of the Single Electricity Market (SEM) joining electricity markets between Ireland and Northern Ireland and the interconnector linking us to Great Britain. Ireland needs to be ready to harmonise certain arrangements on gas and electricity systems with other member states to be ready for the beginning of the European Internal Energy Market in 2016.

The main areas highlighted for discussion in this theme are:

- What long-term approach we should take to electricity and gas market integration after 2016
- Whether any additional regulatory measures need to be taken with regard to increasing competition between energy providers, and their impact on energy prices for consumers
- The role of the regulator (the Commission for Energy Regulation – CER) in ensuring a stable and predictable regulatory framework

## Priority 3: Planning and Implementing Essential Energy Infrastructure

There is no getting around the need for energy infrastructure, with a long-term horizon. This must be balanced against fast technological change, and recognition that building infrastructure and particularly energy infrastructure is controversial. We need robust, transparent rules and procedures governing the planning and decision-making process. The White Paper should provide a vision and practical measures relating to how we can develop the energy infrastructure needed to achieve energy systems integration and transformation.

The main issues covered by this theme are:

- How increasing shares of renewable electricity can be integrated to the Irish electricity grid while at the same time meet increasing electricity demand
- What steps are necessary to improve electricity and gas systems integration
- How oil storage and refining in Ireland can be secured
- What needs to be done to improve the planning process of energy infrastructure in terms of empowering stakeholders and increasing efficiency for project developers

## Priority 4: Ensuring a Balanced and Secure Energy Mix

Driven by the pillars of competitive, secure and clean energy, we need to work towards achieving the right energy mix. Right now we import far too much energy, taking about €6.5 billion a year out of the Irish economy. We need to exploit our own resources more through increasing the shares of domestically produced renewable energy.

Diversity helps to reduce the risk of energy supply disruption and price spikes, and enables better planning for emergencies in supply. Our choices on the nature, type and origin of fuels we use to provide heating, facilitate transport and generate electricity also mainly determine whether we meet our energy and decarbonisation policy objectives.

The main areas discussed in this theme are:

- How to optimise the use of our indigenous natural resources
- Our dependence on fossil fuels in transport and heating
- New approaches to energy storage and emergency planning that might be needed

## Priority 5: Putting the Energy System on a Sustainable Pathway

Our current approach is simply not a sustainable energy pathway, particularly in the long term – be it in terms of risk, security or, most profoundly, the environmental implications. Climate change is possibly the most fundamental existential issue of our time. Over the next decades Ireland's economy will need to shift from one predominantly dependent on imported fossil fuels to a more indigenous, low-carbon economy based on renewable energy, energy efficiency and smart networks. It will also need to fully exploit the major opportunity this presents for job creation and economic growth. This starts with improving dramatically our energy efficiency so that we get the maximum benefit of every unit of energy delivered. It also demands exploring all options for increasing the supply of low-carbon energy supply – for heating and transport as well as electricity.

The main areas covered in this theme are:

- How to enable a radical improvement in energy efficiency
- What measures are needed to upscale the use of renewable energy across the sectors where it is most beneficial
- Sustainable development of the grid
- How to maximise job creation during the energy transformation
- The role of SEAI in facilitating our shift to a sustainable energy pathway
- How climate change and our international mitigation commitments will affect our energy system

## Priority 6: Driving Economic Opportunity

Energy is central to protecting existing jobs and creating new ones. Ireland has suffered a severe recession since 2008 that has been felt in all corners of the economy. Yet there are economic opportunities in every facet of the energy industry, while a modern, robust energy system is a key enabler for future economic growth.

Energy efficiency is central to ensuring a return to economic competitiveness, as is a low-carbon energy supply, which is becoming a more important factor in attracting multinational businesses to Ireland. Global innovation is developing in the energy sector and Ireland has an opportunity to build a sector exporting smart energy technologies and services. The task for the State is to provide policies for the energy sector that encourage fluidity, coherence and innovation.

The main areas covered in the economic opportunity theme include:

- The measures needed to ensure a well-equipped energy workforce
- How to encourage strong investment in research and development
- Fostering strategic partnership between industry and academia
- How to improve the gathering of relevant energy data and develop modelling hubs to process it
- Developing a collaborative governmental approach to energy policy

## Conclusions and questions

Ireland has important choices to make in order to make the transition to the sustainable energy system of the future. All citizens, as energy users, are energy citizens, and they should be empowered through information, education and transparency to participate in decision-making. The next White Paper on Energy Policy should provide a vision of a sustainable energy system for Ireland and the policy framework needed to achieve it.

Big changes have occurred in Ireland and the world since the last energy White Paper in 2007. Many of these changes have affected the way we use energy and the amount we use.

Energy markets have changed with the unbundling of the retail market and increased competition through interconnection and the Single Electricity Market. These have led to price benefits for consumers and firms.

Energy policies have made an impact on energy use in key sectors. Ireland has reduced energy intensity and increased the share of renewable energy. But a dramatic shift in these trends is needed.

The Department of Communications, Energy and Natural Resources invites all citizens to help us work out collectively how to achieve a sustainable energy system, which will bring benefits to us all and to future generations.

# List of questions

## Priority 1 – Empowering Energy Citizens

### *Questions and Policy Options*

1. How can we encourage citizens to be part of our transition to future energy paths and the policymaking process that goes with it? Given the scale of changes needed, what are the right mechanisms to engage citizens (e.g. would ‘energy citizen’ impact assessments for energy policy decisions or transition from written consultations to interactive workshops with interested stakeholders be more effective)?
2. What formal and informal mechanisms could be used to enhance citizen engagement with regulatory and policy decisions and how should they be structured? (e.g. should there be greater use of consumer panels?)
3. How can we increase the rate of home retrofit radically? What can Government do to encourage citizens to undertake ambitious home upgrades in large numbers? Are there particular barriers that need to be overcome, such as lack of finance, information, and skilled professionals?
4. How can we raise awareness of the scale of the energy challenges facing us and the ways that citizens can be part of collective solutions? What can we do to improve citizens’ access to energy information?
5. How have other countries effectively engaged citizens in infrastructural development, and which innovative or interesting approaches could be helpful in Ireland?
6. Is there further scope for switching in the Irish retail electricity and gas markets to enable customers to avail of alternative price and product opportunities, or do the numbers indicate that Irish switching has plateaued? If there is indeed further scope for switching for consumer benefit, are there barriers that need to be overcome, such as availability of information or consumer difficulties with the switching process?
7. Is micro-generation the most cost-efficient solution to decarbonising home energy, and who should bear the costs of any associated support scheme – consumers, taxpayers or industry?
8. What is needed to ensure that smart meters enable greater consumer empowerment in the Irish energy market? Are there steps that should be taken to allow smart meters to play the fullest role in enabling greater consumer empowerment in the Irish energy market, in particular in relation to behavioural change, aside from CER’s on-going preparations for the national smart meter rollout programme, and its associated regulatory decisions?

## Priority 2 – Markets, Regulation and Prices

### *Questions and Policy Options*

9. Given the success of Government policy on increasing competition to create downward pressure on prices, are the extent and effectiveness of competition and of competitive behaviour, in both the electricity and gas markets (wholesale and retail), sufficient, and are there any strengthening measures required, at regulatory and/or Government level?
10. Is the regulator strongly enough positioned and resourced – financially and in terms of human resources – to deliver its regulatory decision-making and advice roles as set in its legislation, and thereby to contribute to the achievement of energy policy outcomes and regulatory certainty and stability in the Irish market?
11. Is CER's legislative remit appropriate for the purpose of regulatory certainty and stability?
12. Aside from the market integration initiatives as set out above and currently being worked on (the SEM 2016 project and EU electricity and gas code development and implementation), what should be Ireland's long-term approach to, and strategy for, electricity and gas market integration for the period after 2016, and how can appropriate governance at regulator and member-state level be provided for in the post-2016 market? What further actions can be taken at Government or regulator level to ensure that Ireland benefits from the EU internal energy market in gas and electricity?
13. Given the length of time since the establishment of the regulatory framework for CER, and the extent of additions to the CER functions since then, how should a review of the regulatory framework and/or CER's mandate best be conducted? The Action Plan for Jobs commits to the inclusion of a regulatory mandate review as part of the Green Paper process. In light of the implications of the market integration challenge for all players in the period up to 2016, should this review be partial or full? If a partial review is envisaged, should it be limited to how the regulatory framework and/or CER enable consumer understanding and citizen empowerment?
14. Current Government policy on Ireland's transmission asset ownership regime is settled and the SEM Committee's requirements as regards certification must be progressed by both companies involved (EirGrid and ESB). What are the likely cost and benefit impacts for end consumers associated with the Commission's recommended changes in its certification decision? Assuming an overall sufficiently positive impact for consumers, how might these changes be best implemented?
15. Given that Government policy has sought to increase competition to create downward pressure on prices, are there unrealised opportunities in the pricing and regulatory framework for ensuring further price improvements, and, if so, what are they?

## **Priority 3 – Planning and Implementing Essential Energy Infrastructure**

### *Questions and Policy Options*

16. What improvements to energy infrastructure are required to facilitate the transition to future integrated energy systems?
17. How could the permitting and licensing processes for major energy infrastructure projects provide for greater collaboration and engagement with community stakeholders?
18. Following the 'Government Policy Statement on the Strategic Importance of Transmission and Other Infrastructure' in 2012, what additional improvements could be made to the permitting and licensing processes for energy infrastructure projects to make them clearer and more efficient for project developers, the public, and other stakeholders?
19. How can Ireland better collaborate with Northern Ireland and neighbouring EU Member States on a shared approach to supporting potential investment in building and accessing energy storage capacity in order to better use oil and gas fuel supplies and to facilitate further exploitation of variable renewable energy sources?
20. Is Ireland's electricity and gas infrastructure – including, but not limited to, interconnection – sufficiently developed for Ireland to be able to achieve the benefits of European market integration at least cost? How should Ireland continue to improve electricity and gas interconnections in the context of this integration and its security of supply policy objectives? What additional steps could be taken to facilitate this improvement?
21. Does the existing regulatory regime underpin and incentivise appropriately investment in existing and potential future electricity and gas interconnection infrastructure and/or full consideration of its alternatives, on a cost-effective basis?
22. In light of continued reliance on oil to 2030 and beyond, what is the best approach to monitoring and ensuring the capacity of Irish oil infrastructure? What measures should be taken to facilitate the commercial future of oil refining in Ireland?

## Priority 4 – Ensuring a Balanced and Secure Energy Mix

### *Questions and Policy Options*

23. How can we reduce our high dependence on oil and gas?
24. How best should we ensure that appropriate framework conditions are in place for secure markets and infrastructure with sufficient capacity and investment in the medium to long term?
25. How can we optimise the policy and regulatory environment to enable the market to decide on an appropriate fuel mix from a grid, market design, carbon, cost and energy security perspective? Are current policy and regulatory instruments sufficient or are additional interventions required, and what should those be?
26. Given that Moneypoint will approach the end of its life by 2025, is there a role for coal in the future power-generation fuel mix, taking into account cost, security of supply and environmental issues? If coal generation does not continue at Moneypoint, what are the alternatives? Should options such as biomass or nuclear power be considered?
27. What strategy is needed to support the continued increase of renewable energy on the electricity grid? Are new approaches needed?
28. What are the security, carbon and cost implications of alternative transport fuels including electricity, biogas, biomethane, LPG, LNG and CNG? What supports or policy interventions will be required to achieve the switch to these alternatives?
29. What options should we pursue to incentivise switching to cleaner lower-carbon heating fuels?
30. How best should we further develop and implement streamlined and integrated oil, gas and electricity emergency planning and control frameworks to ensure resilience to fuel-supply disruptions and external energy shocks?
31. What options should we pursue to enhance oil, gas and electricity storage? Should we explore further the potential for additional oil stocks to be deployed as secondary fuel in the event of gas disruptions? What are the costs and benefits of delivering energy storage, and are there alternatives?
32. What further efforts are required to pursue indigenous development of hydrocarbons and ensure suitable conditions for development on the island to improve Ireland's security of supply position? What additional actions should we take?

## **Priority 5 – Putting the Energy System on a Sustainable Basis**

### *Questions and Policy Options*

33. How should cost-effective sustainable energy be promoted and supported? What are the appropriate support and regulatory frameworks to do this, ensuring both regulatory certainty and protection of the long-term interest of consumers? Is there a role for solar, offshore wind, wave, tidal or other technologies?
34. What options are available to encourage private investment in energy efficiency and ensure the transition to non-Exchequer funding models for energy efficiency?
35. How might supports for sustainable energy measures be made more predictable and transparent, and more effectively attract cost-competitive investment in renewable electricity, heat and transport?
36. How can Ireland best develop sustainable energy solutions that meet our long-term international climate obligations? Which pieces of energy infrastructure should be our priorities for climate adaptation?
37. How do we ensure cost-effective and timely investment in electricity transmission and distribution, including in smart grids?
38. How can we exploit Ireland's sustainable energy strengths to realise job creation and economic growth opportunities?
39. Are the optimal structures in place to deliver sustainable energy and realise the associated jobs and growth opportunities? Are existing policy interventions for sustainability (e.g. public service obligation, priority dispatch, efficiency measures) consistent and aligned?



## **Priority 6 – Driving Economic Opportunity**

### *Questions and Policy Options*

40. What skills and training are required to underpin the energy system in 2020? How should training for the energy sector be organised?
41. How can energy policy be designed to maximise and grow Irish employment in the sector in the long term?
42. How can Government funding for R&D in the energy field be best targeted to maximise the potential for the commercialisation of IP emerging from such R&D?
43. How should research funding organisations modify their support programmes?
44. How should Ireland best position itself to maximise the benefit from Horizon 2020?
45. What else should be done to maintain and improve the integrated innovation support process, from basic research to commercialisation?
46. How can there be more collaboration and on-going structured interaction between researchers, modellers and policymakers to ensure that energy research and modelling address the real energy policy problems including impacts on citizens, and challenges as policymakers perceive them, and that the resulting analysis and publications have policy relevance?
47. Do any other areas within the energy/enterprise policy space need to be addressed in the forthcoming Energy White Paper?

## Consultation Process

The Green Paper is available on the Department's website: [dcenr.gov.ie/greenpaper](http://dcenr.gov.ie/greenpaper)

Copies are available in hard copy, on application to the Department.

Submissions may be made by email at the following dedicated mailbox:

[GreenPaper@dcenr.gov.ie](mailto:GreenPaper@dcenr.gov.ie)

Alternatively submissions may be made in writing to:

Energy Policy and Planning Unit,  
Department of Communications, Energy and Natural Resources,  
29-31 Adelaide Road,  
Dublin 2.

If you have any queries please contact 353 1 6782934

The public consultation will conclude at 17.30 on Thursday 31st July 2014.

**Please note that all submissions and comments submitted to the Department of Communications, Energy and Natural Resources for this purpose may be subject to release under the Freedom of Information Acts 1997–2003 and the Access to Information on the Environment Regulations (2007); and may be placed on the Department's website.**



